FAO Report on Plant Genetic Resources for Food and Agriculture

Source: DTE

Why in News?

The **Food and Agriculture Organization (FAO)** has released the **3rd Report on the State of the World's Plant Genetic Resources for Food and Agriculture (SoW3)** after the **20th Session of the Commission on Genetic Resources for Food and Agriculture (CGRFA-20)** held in **Rome, Italy**.

- The report highlighted that although **around 6,000 plant species** are cultivated globally, 60% of the world's crop production is concentrated in just 9 crops.

- **Note:** The **State of the World's Plant Genetic Resources for Food and Agriculture (SoW-PGRFA) Report**, published by **FAO** under the **CGRFA,** is a periodic global assessment of **plant genetic resources**, focusing on their **conservation, sustainable use, and role in food security**.

What are the Key Highlights of the FAO's Report on World's Plant Genetic Resources?

- **Global Crop Dependency: 60% of global crop production** relies on just **9 crops**- **sugarcane, maize, rice, wheat, potatoes, soybeans, oil palm fruit**, **sugar beet,** and **cassava.**
  - Despite the cultivation of **6,000 plant species**, **crop diversity is declining**, posing risks to global food security.
- **Threat to FV/LR:** In India, over **50% of Farmers Varieties and Landraces (FV/LRs)** across five **agro ecological zones** are under threat. The 2016 **Seed Hub Initiative** has boosted pulse production by promoting **high-yielding varieties (HYVs)**.
  - **FV/LRs** are traditional crops adapted to local conditions, enhancing **biodiversity, food security, and climate resilience**. They offer greater resistance to **pests, diseases, and drought** than commercial hybrids, e.g., **Kala Namak Rice, Chapati Wheat, and Rajnigandha Cotton**.
  - Globally, **6% of FV/LR diversity** is at risk, with losses exceeding **18%** in some regions. **Southern Africa, the Caribbean, and Western Asia** are the most affected.
- **Conservation Scenario: 42% of plant taxa** face threats in **in-situ conservation**, while **ex-situ efforts** face **financial, political, and infrastructural constraints**, along with skill shortages.
- **Crop Diversity and climate change:**
  - **Extreme weather events accelerate genetic diversity loss**, while many countries **lack disaster impact assessment mechanisms**.
  - **Post-disaster germplasm distribution** i.e. the **supply of plant genetic material for cultivation and conservation** faces challenges due to **poor seed adaptability to local soil**.

Commission on Genetic Resources for Food and Agriculture (CGRFA)

- **Establishment:** Founded by the **Food and Agriculture Organization (FAO)** in **1983** to **address issues** related to **genetic resources for food and agriculture (GRFA).**
- **Objective**: Serves as the **only permanent intergovernmental body** dedicated to the **conservation and sustainable use of biological diversity in agriculture.**
- **Membership:** 179 countries (as of January 2023), including **India**, along with the European Union.
- **Major Achievements of CGRFA:**
    - **International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (2001):** Facilitated its adoption, recognizing farmers' contributions to crop diversity and establishing a **global framework** for assessing plant genetic materials for breeders, farmers, and researchers.
    - **Animal Genetic Resources (AnGR) and the Global Plan of Action (GPA):** Initiated work on AnGR in 1997, leading to the first-ever *Report on the* ***State of the World's Animal Genetic Resources*** and culminating in the adoption of the **GPA in 2007.**

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. How is permaculture farming different from conventional chemical farming? (2021)

1. Permaculture farming discourages monocultural practices but in conventional chemical farming, monoculture practices are predominant.
2. Conventional chemical farming can cause an increase in soil salinity but the occurrence of such phenomenon is not observed in permaculture farming.
3. Conventional chemical farming is easily possible in semi-arid regions but permaculture farming is not so easily possible in such regions.
4. Practice of mulching is very important in permaculture farming but not necessarily so in conventional chemical farming.

Select the correct answer using the code given below.

(a) 1 and 3

(b) 1, 2 and 4

(c) 4 only

(d) 2 and 3

Ans: (b)

Q. Consider the following agricultural practices: (2012)

1. Contour bunding
2. Relay cropping
3. Zero tillage

In the context of global climate change, which of the above helps/help in carbon sequestration/storage in the soil?

(a) 1 and 2 only

(b) 3 only

(c) 1, 2 and 3

(d) None of them

Ans: (b)

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